

REMARKS

Claims 22-25, 27, 29-35 and 37-55 are now pending in the application. Claims 22-25, 27 and 29-35 stand withdrawn. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-9, 11, and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yotsuya et al. (U.S. Pat. No. 6,469,832) in view of Kanda (U.S. Pat. No. 5,876,267). Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yotsuya et al. (U.S. Pat. No. 6,469,832) in view of Kanda, in further view of Wolf et al., Silicon Processing for the VLSI Era, Vol. 1, Lattice Press (1986). Claim 12 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yotsuya et al. in view of Kanda, in further view of Shell (U.S. Pat. No. 4,012,263). Claims 14-17, 19, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yotsuya et al. in view of Borelli et al. (U.S. Pat. Appl. No. 2003/0,007,772). Claim 18 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yotsuya et al. (U.S. Pat. No. 6,469,832) in view of Borelli, in further view of Wolf. Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yotsuya et al. in view of Borelli, in further view of Shell. These rejections are respectfully traversed.

Applicant cancels claims 1-21 without prejudice. Accordingly, these rejections are moot.

NEW CLAIMS

Applicant adds new claims 37-55. Support for these new claims can be found at least in Figs 5 and 6 and the last paragraph of page 25 to the fifth paragraph of page 27 of the original application. No new matter is added.

Independent claim 37 calls for a method of manufacturing a substrate with a plurality of concave portions. The method includes forming a first mask on a substrate and forming a plurality of first initial holes in the first mask by a physical method or irradiation with laser beams. Next, a plurality of first concave portions are formed in the substrate by subjecting the substrate (that has been provided with the first mask having the plurality of first initial holes therein) to a first etching process. The first mask is then removed after the first etching process.

After the first mask is removed from the second substrate, a second mask is formed on the substrate (in which the plurality of first concave portions have already been formed). A plurality of second initial holes are then formed in the second mask by a physical method or irradiation with laser beams. Next, a plurality of second concave portions are formed in the substrate by subjecting the substrate (that has been provided with the second mask having the plurality of second initial holes therein) to a second etching process. Finally, the second mask is removed after the second etching process.

According to the above method, the claimed substrate is manufactured with a plurality of concave portions (i.e., the thus formed plurality of first and second concave portions). In other words, the plurality of concave portions formed in the substrate

comprise the plurality of first concave portions formed by the first etching process and the plurality of second concave portions formed by the second etching process. The remaining claims further define the method of claim 37.

In contrast to the claimed method, the prior art of record fails to teach forming a substrate with a plurality of concave portions that include a plurality of first concave portions formed by a first etching process and a plurality of second concave portions formed by a second etching process.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: June 15, 2006

By: 

G. Gregory Schivley
Reg. No. 27,382
Bryant E. Wade
Reg. No. 40,344

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

[GGS/BEW/pvd]